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Bioseparations: Engineering Analysis; 1.8.1 Stages of Downstream Processing; Example 1.2 Initial Selection of Purification Steps; 1.8.2 Basic Principles of Engineering Analysis; 1.8.3 Process and Product Quality; 1.8.4 Criteria for Process Development; 1.9 The Route to Market; 1.9.1 The Chemical and Applications Range of the Bioproduct 1.9.2 Documentation of Pharmaceutical Bioproducts 1.9.3 GLP and cGMP; 1.9.4 Formulation; 1.10 Summary; Nomenclature; Problems; References; 2 Analytical Methods and Bench Scale Preparative Bioseparations; 2.1 Instructional Objectives; 2.2 Specifications; 2.3 Assay Attributes; 2.3.1 Precision; 2.3.2 Accuracy; 2.3.3 Specificity; 2.3.4 Linearity, Limit of Detection, and Limit of Quantitation; 2.3.5 Range; 2.3.6 Robustness; 2.4 Analysis of Biological Activity; 2.4.1 Animal Model Assays; 2.4.2 Cell-Line-Derived Bioassays; 2.4.3 In vitro Biochemical Assays
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 2.5.11 ICP/MS (AES) 2.5.12 Dry Weight; 2.6 Microbiology Assays; 2.6.1 Sterility; 2.6.2 Bioburden; 2.6.3 Endotoxin; 2.6.4 Virus, Mycoplasma, and Phage; 2.7 Bench Scale Preparative Separations; 2.7.1 Preparative Electrophoresis; 2.7.2 Magnetic Bioseparations; 2.8 Summary; Nomenclature; Problems; References; 3 Cell Lysis and Flocculation; 3.1 Instructional Objectives; 3.2 Some Elements of Cell Structure; 3.2.1 Prokaryotic Cells; 3.2.2 Eukaryotic Cells; 3.3 Cell Lysis; 3.3.1 Osmotic and Chemical Cell Lysis; 3.3.2 Mechanical Methods of Lysis; 3.4 Flocculation; 3.4.1 The Electric Double Layer
 Example 3.1 Dependence of the Debye Radius on the Type of Electrolyte

Sommario/riassunto

An updated edition of a comprehensive and authoritative chemical engineering textbook on bioseparations science, updated to include new information on topics like moment analysis, chromatography, and evaporation.